

sitivity analyses proved the robustness of the results. With a probability of exceeding 90%, the triple combination is cost effective with an incremental cost effectiveness ratio (ICER) threshold of less than 20,000 €/QALY. **CONCLUSIONS:** The single pill triple combination therapy with AML/VAL/HCTZ is a highly cost-effective antihypertensive choice for the treatment of moderate to severe hypertension.

#### PCV54

##### ECONOMIC EVALUATION OF RIVAROXABAN IN THE TREATMENT OF DEEP VEIN THROMBOSIS IN GREECE

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**OBJECTIVES:** To undertake an economic evaluation of rivaroxaban relative to standard care with injectable heparins (enoxaparin) followed by dose adjusted vitamin-K-antagonists for the treatment of deep vein thrombosis (DVT). **METHODS:** An international Markov model designed to reflect the management and complications of DVT in the course of three month cycles, up to death, was locally adapted. It comprises twelve health states and allows for the comparison of rivaroxaban against standard treatment in the six-month acute treatment phase. Baseline event rates and the relative treatment effect of rivaroxaban (HRs) were derived from the whole study population of the EINSTEIN DVT trial. Utility values were based on the published literature. Cost data reflect the year 2012 and were extracted from local sources. The incremental cost-effectiveness ratio (ICER) was calculated with quality-adjusted-life-years (QALYs) gained as the outcome measure. One-way sensitivity analyses and probabilistic analysis was undertaken to deal with uncertainty. The analysis was undertaken from a payer perspective and all costs and outcomes were discounted at 3.5%. **RESULTS:** The analysis showed that the average total cost of 6-month rivaroxaban-treated patients was €170 higher compared to patients treated with the standard care. Rivaroxaban was associated with additional drug costs (€457), however these were partially offset by reduced monitoring costs (€257). Moreover, rivaroxaban was associated with a small QALY increment (0.019) and the ICER was calculated at €8,795 per QALY gained. Sensitivity analysis showed that the base case ICER was most sensitive to HRs for recurrent venous thromboembolism and major bleeds. Excluding the cost of rivaroxaban, the model was also relatively sensitive to mean cohort age. Probabilistic analysis revealed that the likelihood of rivaroxaban being cost-effective at a threshold of €30,000/QALY was 89% and at €40,000 was 93%. **CONCLUSIONS:** Rivaroxaban may represent a cost-effective new alternative for the management of DVT in Greece.

#### PCV55

##### A COST-EFFECTIVENESS ANALYSIS OF CORALAN® (IVABRADINE) PLUS STANDARD CARE VERSUS STANDARD CARE ALONE IN CHRONIC HEART FAILURE

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**OBJECTIVES:** Ivabradine is a new therapeutic option for symptomatic heart failure (HF) patients with reduced ejection fraction in sinus rhythm. SHIFT was an international, phase III, multicenter, randomized trial comparing ivabradine added to standard care (SC) with SC alone in heart failure patients. Cardiovascular death or hospitalization due to worsening HF was observed significantly less with ivabradine than with placebo (hazard ratio 0.82, 95%CI: 0.75-0.90, P<0.0001). In this study we used Turkish data to evaluate cost effectiveness of ivabradine added to SC vs SC alone in HF patients in a Turkish setting from national health care provider perspective. **METHODS:** We used a two-state Markov cohort model (alive vs dead) with a one-month cycle. Ivabradine added to SC was compared with SC alone based on raw data of SHIFT trial. Health benefit modeled was life-years gained. Time horizon was "lifetime". The model considers direct costs only. Health care resources were hospitalization, medications, HF management (1USD = 1.7681TL; Feb 2012) and costs associated are collected from Ministry of Health and National Social Security Organization lists. GDP per capita is 10,444USD in Turkey (2011). One-way and probabilistic sensitivity analyses were performed with changes in model parameters, ie baseline heart rate, NYHA class, hospitalization rate etc. **RESULTS:** Total costs were 17.225USD for ivabradine added to SC and 13.754USD for SC alone. Life-years gained with ivabradine added to SC were 0.384; incremental cost-effectiveness ratio was calculated as 9.040USD/LY gained. ICER value was robust to most model parameters, but was sensitive to baseline heart rate and hospitalization rate ratio. **CONCLUSIONS:** Ivabradine added to SC was cost effective in HF patients in sinus rhythm in a Turkish setting (lower than GDP per capita in Turkey and in line with WHO recommendations). This finding is based on significant decrease in mortality and hospitalizations and related costs provided with ivabradine.

#### PCV56

##### COST EFFECTIVENESS OF ADDING EZETIMIBE TO ATORVASTATIN THERAPY IN PATIENTS NOT AT LDL CHOLESTEROL TREATMENT GOAL IN BRAZIL

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**OBJECTIVES:** To compare the cost effectiveness of adding ezetimibe on top of atorvastatin therapy vs. doubling of atorvastatin dose for high risk patients who failed to reach target LDL cholesterol (LDL-C) levels on their current atorvastatin dose. **METHODS:** A previously developed Markov model was utilized to evaluate cost and health outcomes converted into quality adjusted life-years (QALY). The lipid-lowering effects of the addition of ezetimibe (10mg) on top of atorvastatin (20mg) (EZ+A) vs. doubling of existing atorvastatin (10 or 20mg to 20 or 40 mg) (2A) doses were estimated from clinical trial data. High risk cohort was defined as those with established coronary heart disease (CHD) and/or diabetes. Patient profile data were generated based on the LTAP-2 study in Brazil. Costs of acute and long-term care for CHD events and treatments were calculated in Brazilian Reals (R\$). **RESULTS:** Discounted costs and QALYs ranged from R\$ 13,576 to R\$ 57,273 and 5.99 to 15.59 respectively for 2A arm whereas ranges for discounted costs and QALYs were R \$15,673 to R\$ 60,735 and 6.16 to 15.64 respectively for EZ+A among 54 patients with CHD and/or diabetes. Incremental cost-effectiveness ratios (ICERs) comparing EZ+A vs. 2A were estimated to range between R\$ 13,392 to R\$ 75,883 (ICER exceeded R\$ 60,000 only for 4 patient profiles). These results suggest that EZ+A was cost-effective against 2A at a threshold of 3 times Brazilian per capita GDP (~R\$ 60,000) for majority of the patients (50 out of 54 patient profiles). In addition, for patients with CHD and diabetes, EZ+A was highly cost-effective (ICER less than Brazilian GDP per capita ~ R\$ 20,000) against 2A. **CONCLUSIONS:** Results suggested that adding ezetimibe to atorvastatin among high risk patients who were not at LDL-C goal could be a cost-effective treatment strategy when compared to doubling of atorvastatin dose.

#### PCV57

##### COST-EFFECTIVENESS OF IVABRADINE IN THAI HEART FAILURE PATIENT

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Heart failure (HF) represents a significant economic burden worldwide with hospitalizations as main cost driver. Ivabradine, has been granted in the treatment of symptomatic heart failure patients, based on SHIFT trial. **OBJECTIVES:** To evaluate the cost-effectiveness of Ivabradine on top of standard care of heart failure versus standard care alone in Thai patients from the national health care perspective. **METHODS:** An economic evaluation based on clinical benefits observed and resources consumed during the SHIFT, a randomized placebo-controlled trial, with ivabradine on top of standard care compared to standard care alone with a mean follow up of 22.9 months. The principal results were -18% and -26% relative risk reduction from cardiovascular death or hospitalization for heart failure and hospitalization for worsening heart failure. Risk equations were built based on SHIFT data, adjusting clinical benefits to Thai patient profile obtained from literature review. Drug local costs were the lowest median prices from ministry of public health database. Hospital costs were extracted from a public hospital database on HF admission during January-December 2011 representing 1,276 patient-treatment days, with mean hospital charges combined in Thai baht (THB). The incremental cost-effectiveness ratios (ICER) were calculated and expressed in cost/life years gained (LYG) and cost/Quality-Adjusted Life Years gained (QALYg). Probabilistic sensitivity analysis was performed. **RESULTS:** Mean total cost [95% CI], LY and QALY gained were 224,880 [220,470 - 228,978] THB, 2.12 LY and 1.52 QALY respectively, for Thai heart failure patients treated by ivabradine on top of standard care, while 227,884 [222,736-232,667] THB, 2.09 LY and 1.49 QALY respectively for patients treated by standard care alone. As results, ivabradine on top of standard care provided an ICER of 134,281THB/LYG and 109,415THB/QALYg compared with standard care alone. **CONCLUSIONS:** Ivabradine on top of standard care treatment for Thai heart failure patient is dominant as compared with standard care alone resulting in LYG, QALY gains of 134,281THB and 109,415 THB.

#### PCV58

##### THE COST EFFECTIVENESS OF AMLODIPINE VALSARTAN AND HYDROCHLOROTHIAZIDE SINGLE PILL COMBINATION IN TURKEY

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**OBJECTIVES:** To evaluate cost effectiveness of amlodipine (aml) / valsartan (val) / hydrochlorothiazide (hctz) single pill combination (SPC) versus aml/val or val/hctz SPCs. **METHODS:** The efficacy results of the SPCs evaluated will be obtained from a randomized controlled study conducted by Calhoun DA et al. Price of the SPCs evaluated will be obtained from price list of the Ministry of Health of Turkey. Aml/Val 10/320 mg is not available in Turkish market, therefore its price will be estimated by using regression model based on the prices of the other available antihypertensives in the Turkey. Cost-effectiveness (CE) ratio for each SPC was calculated and SPCs will be compared in terms of incremental cost-effectiveness ratio (ICER). **RESULTS:** The ratio of patients achieving blood pressure (BP) rates were 70.8%, 54.1% and 48.3% with aml/val/hctz 10/320/25 mg, aml/val 10/320 mg and val/hctz 320/25 mg, respectively (1). The drug costs of the aml/val/hctz 10/320/25 mg, aml/val 10/320 mg and val/hctz 320/25 mg 9-weeks treatments for 100 patients are 14,161 TL, 11,692 TL and 5,962 TL, respectively. The CE ratios of aml/val/hctz 10/320/25 mg, aml/val 10/320 mg and val/hctz 320/25 mg are calculated as 2.0, 2.16 and 1.23 respectively. Thirty-day adjusted ICERs of aml/val/hctz 10/320/25 mg are 70.40 TL and 173.52 per percentage of patients achieving BP targets versus aml/val 10/320 mg and val/hctz 320/25 mg, respectively, whereas it is 470.44 TL with aml/val 10/320 mg versus val/hctz 320/25 mg. **CONCLUSIONS:** Although there is no formal threshold for ICER per percentage of patients achieving BP targets in Turkey, reimbursement of aml/val/hctz 10/320/25 mg seems to be affordable.